

A B S T R A C T

5 A METHOD OF FABRICATING A ZIRCONIUM ALLOY FLAT PRODUCT, A
PRODUCT AS OBTAINED THEREBY, AND A FUEL ASSEMBLY ELEMENT
FOR A POWER STATION NUCLEAR REACTOR MADE FROM SAID FLAT
PRODUCT

10 A method of fabricating a zirconium alloy flat product, the method being characterized by: preparing or casting a zirconium alloy ingot containing at least 95% by weight of zirconium, and including the usual impurities and alloying elements; shaping said ingot in order to obtain a flat product; subjecting said flat product to a β quenching operation under conditions that

15 are determined to obtain within the flat product an acicular structure at the end of said β quenching; subjecting said flat product, after the β quenching, to a rolling operation performed in a single rolling sequence without intermediate annealing, said rolling being

20 performed at a temperature lying in the range ambient to 200°C, and having a reduction ratio lying in the range 2% to 20%; and subjecting said rolled flat product to an annealing treatment in the α range or in the $\alpha + \beta$ range, performed in the temperature range 500°C to 800°C for

25 2 minutes to 10 hours. A zirconium alloy flat product as obtained by the method, and a fuel assembly element for a power station nuclear reactor obtained by shaping the product.

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35 Translation of the title and the abstract as published by the PCT Authorities, possibly after making changes, ex officio, e.g. under PCT Rules 37.2, 38.2, and/or 48.3.